DOCUMENT RESUME

ED 233 700 IR 010 791

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TITLE Software Piracy, Ethics, and the Academician.
PUB DATE [Nov 82]
NOTE 7p.; Paper presented at the Western Educational Computing Conference and Trade Show (San Diego, CA, November 18-19, 1982).
PUB TYPE Viewpoints (120) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Computer Programs; Copyrights; *Ethics; *Intellectual Property; Marketing; Merchants; *Microcomputers; Publishing Industry; *Reprography; Teachers; Technological Advancement
IDENTIFIERS Computer Users; *Software Evaluation

ABSTRACT

The numerous software programs available for easy, low-cost copying raise ethical questions. The problem can be examined from the viewpoints of software users, teachers, authors, vendors, and distributors. Software users might hesitate to purchase or use software which prevents the making of back-up copies for program protection. Teachers in search of application programs may desire the opportunity to evaluate software, before purchase, in the actual instructional environment. Some vendors have developed programs to allow software try-out or previewing. Authors who do not receive fair compensation for their intellectual efforts may drop out of the development field, while vendors may apply efforts to different products or marketplaces if potential program sales are perceived as not worth the investment. In order to build volume, several software publishers have reduced prices. Still the computer store operator can devote only limited time to promoting low-priced software or programs with limited sales potential. Without a solution, software creators and publishers may stop software development. However, because the marketplace is potentially too large to ignore, ingenuity combined with technology will probably produce a solution. This paper lists 15 references. (LMM)

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SOFTWARE PIRACY, ETHICS, AND THE ACADEMICIAN

by

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(To Accompany Document Submitted to ERIC/IR)

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SOFTWARE PIRACY,
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Abstract (up to 200 words):

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A look at the current situation in academe regarding the piracy of software. With the great number of software packages available for easy copying, ethical questions are raised. Part of the problem lies in the ease with which the technology makes it possible to make copies.

Methods for overcoming difficulties in software evaluation are examined. Potential threats to the survival of the entire educational software system are looked at. The problem of piracy is examined from the viewpoints of the user of the software, the teacher in search of an application program, the software author, the software vendor, and the computer store.

Conclusions are optimistic that a solution will be found through technology, although the effort to devise such schemes might better be channelled into developing more and better software.

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Information About Document
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Paper presented at: Western Educational Computing Conference
November 18-19, 1982, San Diego, California

Project Report (Contract Information, if possible)

Journal Article (Complete Citation)--(Some journals do not appear in CIJE)

Other

010 167

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A look at the current situation in academe regarding the piracy of software. With the great number of software packages available for easy copying, ethical questions are raised. Part of the problem lies in the ease with which the technology makes it possible to make copies.

Methods for overcoming difficulties in software evaluation are examined. Potential threats to the survival of the entire educational software system are looked at. The problem of piracy is examined from the viewpoints of the user of the software, the teacher in search of an application program, the software author, the software vendor, and the computer store.

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1. INTRODUCTION

> Since this will be one purchase, I see no copyright problems in duplicating the publications for use within [the organization].
> [Anon.]

A memorandum to a university dean recommended the purchase of three TRS-80 Model III microcomputers, for which **VisiCalc, Profile, Scripsit, MailList II,** and **MailMerge** were recommended as software. The statement quoted above was included in the memo. The writer recommending the equipment and the software was simply not knowledgeable about microcomputer applications and certainly was not aware of the legal and ethical questions in making the copying recommendation. [WollJ] What may be even more disturbing is the attitude expressed in ". . . I see no copyright problems in duplicating the publications . . . ." Lack of concern for the possible illegality of such procedures is widespread. Aside from the legality question, the ethical question rears its ugly head. The academician-author might not look kindly on occasions where a single copy of his or her most recent text book, priced at $29.50, was bought for students in a class to copy on the local photocopier. The implications of such a practice, if widespread, would certainly discourage publishers from publishing, and that in turn would lead to the inevitable lack of incentive for authors. [GreeW2]

The problem beyond the academic community is even worse because software piracy is rampant. It appears as an interesting legal problem in the electronic games industry. [SterR2] It surfaces in the business sector with small business people getting together to buy one software package to be copied for several to use. The hobbyists do this with great regularity. Sometimes "group buys" originate in user groups. Unscrupulous computer systems dealers frequently sweeten the systems deal with a surreptitious copy of

some special software package. Outright sales of stolen software are made by those who have purloined it. Some have even blatantly advertised in the microcomputer journals. One obfuscation is that of "renting" software. The rentee is to use the software ostensibly for evaluation purposes and then return the disk to the renter. One would have to be naive to believe that a copy was not left behind when the original was returned.

2. HIGH TECHNOLOGY AND PIRACY

2.1 Copying Software

The cost of copying a book on a photocopying machine is low, possibly three to five cents a page. Therefore, a 300-page book might cost $9.00 to $15.00 to copy. If one considers that a $20.00 book can be copied for just a little less than its purchase price, it becomes only marginally beneficial to attempt to copy the book if one applies some value to the labor and time involved. On the other hand, one can take a blank diskette costing $3.00 and through the magic of microcomputers transform it into a $700.00 software package in about 77 seconds. That is all there is to making a duplicate of a popular software package. One can then photocopy the manual or even order one from the vendor for "evaluation purposes." The cost of the whole operation is a small fraction of the cost of buying the software.

2.2 Technology Fights back

Some vendors of software have created their software in a form that supposedly cannot be duplicated. The protected disks cannot be copied by using conventional copying programs that are provided with a computer system. Notable among these is **VisiCalc**, probably the greatest selling software package. In spite of its "copy protection" feature, it may also be the software package that has been copied most frequently. As any software hacker will tell you, if you can write information to a disk, you can also read it. Although it is a difficult task to decrypt the locking feature that prevents a protected disk from being copied to another disk, it can be done. A widely advertised program allows the user to do the copying. This program is called **Locksmith**. It enables the user to make backup copies of critical software that is protected by the supplier of the software. **Locksmith** advertising was initially blocked by pressures from the vendors who did not want their software copied. However, ads did appear and word-of-mouth advertising did sell many copies. [LockS] It is interesting to note that **Locksmith** is sold as copy-protected software. Other vendors have provided software that will copy the copy-protected disks. Presumably these will allow **Locksmith** to be copied.

These copying programs are advertised ostensibly for the sole purpose of providing the legitimate owner with a backup capability. In practice, however, copying programs are used to aid and abet pirate activities. Pirated copies of copying programs are also widely distributed.

3. DIFFERENT VIEWPOINTS

3.1 The User of the Software

Most manuals on software suggest, even insist, that you make backup copies of the distribution disk so that you have a restart position if some disaster befalls your disk that contains the program. Some prohibit this good practice. For example, **VisiTerm** is a program that allows Apple to be used as a data communications terminal. It was produced by the same folks who bring you **VisiCalc**. One reviewer observing the potential difficulties of using the software put it this way:

> About the only potential problem could come from the fact that the **Visiterm** diskette must be left without a write-protect tab when you need to save option configurations or incoming/outgoing data files for later use.
>
> This is particularly worrisome since **VisiTerm** is delivered without a backup copy and with relatively effective copy protection. [TeisD]

Imagine a scenario where you are using the **VisiTerm** software for communicating with your university computer system from home over the weekend. The research project that you are completing has a Monday morning deadline. Things are going well until the power at home fails for a fleeting moment just as you are saving something to disk. This power anomaly

clobbers the VisiTerm disk. No backup copy is available, the local dealer is closed until Tuesday, and none of your friends has a copy that you could borrow. This is not a good situation from the user's viewpoint. In fact, it is one that would give pause to buying and using any software that could not be backed up to give protection in such critical cases.

3.2 The Teacher in Search of Application Programs

Since the advent of microcomputers, teachers have been intrigued by the thought that computer power can be theirs at a lower cost than that for big machines in a sharing environment. The hardy early pioneers in microcomputing solved the software problems by writing their own courseware and applications programs. A new breed of teachers coming along does not want to learn programming, but simply wants to use microcomputers. This class of new users has been met by a surge of software purveyors attempting to meet the demand. This has produced much good software, and some downright poor programs as well.

The teacher is placed in the position of evaluating such software. If a local dealer stocks such programs, demonstrations can frequently be made at the dealer's showroom. That will not cover all the features and failings of any software package. The true test is in using it in the actual environment in which the program will be run with the actual data involved. This evaluation process is difficult at best. Should one "borrow" software to make the test for a month or so? What happens if you overlook the "return and buy a legitimate copy" process? What happens if no funds are available when the decision is made to buy a legitimate copy?

3.3 The Software Evaluator

One software vendor has made testing programs in the actual environment practical, even though the software is not directly related to courseware or academic applications. It is being used in numerous educational applications. This program is dBASE II. The vendor offers a thirty-day money-back guarantee. Try it under your own conditions, using your own data. If you believe it is not for you, return the disks and the manual. Your money will refunded. The manual says:

> BEFORE YOU DO ANYTHING ELSE, MAKE A COPY OF THE dBASE II DISC. STORE THE ORIGINAL IN A SAFE PLACE AND USE THE COPY. [Dbase]

Any reader with the slightest larceny in mind will immediately expect to have an opportunity for copying the disk supplied and then returning the original for a refund. This software has been handled to preclude that. The program that you use for evaluation purposes limits the size of the database that you can manipulate. It is sufficient for practical testing, but not capable of supporting an application. When you are satisfied that the program will do what you want under conditions that you can control, you simply break the seal on the second disk supplied. This makes the full system capacity available to you. However, when you do this, eligibility for a refund no longer exists. This is one of the best arrangements that this author has seen.

One software vendor has developed a software demonstration method that will allow users to preview programs before buying. The package consists of a demonstration program, a program manual, and a locked program that is the actual application software. After testing and deciding to buy, full payment is arranged for. The software is registered, and the program is unlocked with a key from the vendor. [GiulJ]

3.4 The Software Author

Many authors of software spend years in developing an application program. The task is often far more time consuming than putting a book together. Assume that you make your living authoring software packages for the education market. After three frustrating years of thinking, testing, and debugging on your microcomputer, you finally have a good product. You contact a software publisher who prices it fairly and proceeds to spend money on promoting the package. The cost of actually preparing the manual and disk is low. The potential buyer may regard the package as a good program that will do what is desired. Instead of paying $195.00 for the package from the vendor, it is easier to copy one that a friend at a nearby

university has available. If this action is replicated many times, the author will not receive fair compensation for his or her intellectual effort. This will no doubt cause that author to drop out of the software development field.

3.5 The Software Vendor

The vendor of software is really a publisher. For the effort of distributing a software package, the publisher must, like the book counterpart, perceive a return on the investment involved. If the likelihood exists that sales of a program will not be worth the investment, the vendor will apply efforts to a different product or marketplace. We cannot expect that vendors will handle marginally profitable software. On the other hand, if a sufficient volume of software can be sold, the unit cost will drop significantly. Users will benefit by a greater volume and quality of programs due to a market that produces a proper return on the investment.

3.6 Vendors and Innovative Pricing

Several software publishers have tried to build volume by reducing price. JRT Systems, publishers of **JRT Pascal**, have made a bold move in the direction of price reduction. Their product, a PASCAL compiler, has been priced at $295. Apparently sales were low and no doubt there were many "group purchases" of this software. They decided to reduce the price to $29.95. From all appearances in the volume and size of their advertising, the ploy is working. The price has been reduced to where the pirate's cost of reproducing the 125-page manual and copying the disk approach the $29.95 cost. [JRT]

Another supplier of software has acted similarly in repricing a $250 word processing software package at $25. This supplier goes one step further in that a buyer is authorized to make copies of the manual and diskette for friends who in turn send $15 each to the vendor. The friends who got the copies will be placed on the supplier's registered owner mailing list for updates and enhancements. It gets very attractive to many buyers to become legitimate registered owners of software by this plan. [RealS]

3.7 The Computer Store

A computer store operator can devote only a limited amount of time to demonstrations and explanations about software packages that might sell one copy. If the price is less than a hundred dollars, it is probable that no effort can be expended beyond suggesting that the user try it in the store with minimum handholding. On the other hand, if the dealer can see that sales of such packages can be quickly made, then the effort has a potential of being rewarded.

4. CONCLUSIONS

If all this sounds like the voice of doom, try to be of good cheer because a solution will be found. Without that, the software creators and publishers may perceive the market as a loser and stop development of software. At that point, the users will find nothing available to either buy or steal. On the other hand, the marketplace is potentially too large to ignore. Ingenuity combined with technology will probably produce a solution. Just think how much better off we would be if all that talent to provide protection against piracy could have been channelled into producing more and better software for users at lower cost. The ball appears to be in the user's side of the court to encourage software production.

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[PaulL] "Attorney Outlines Software Contract Procedures," **ComputerWorld**, March 29, 1982, p. 19.
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[WregR] Rachel Wrege and Dan Watt, interviewers. "Forum on Educational Computing," **Popular Computing**, November 1982, pp. 132-136, 139-141.
Among the many educators' views discussed is the piracy problem. Looks at the ethical questions involved.

6. BIOGRAPHY

Dr. Bassler is Professor of Computer Systems Applications in the Center for Technology and Administration of The American University in Washington, D.C. He has been involved with data processing and information systems since the early 1940s. He is the author/editor of seven books and dozens of articles, monographs, and reviews. Currently, his research is centered on microcomputers for small businesses. His five microcomputer systems are employed in a variety of research projects, primarily in the application of small computers to data base management systems and indexing and abstracting. Dr. Bassler is an active member of two local microcomputer user's groups. His other memberships have included the IEEE Computer Society, the Association for Computing Machinery, Society of Data Educators, and Data Processing Management Association. He is a Certified Data Processor (CDP) and a Certified Data Educator (CDE).